

## CLAIMS

1. System of coupling between dielectric optical guides and planar photonic crystal guides, characterised by the fact that it consists in the introduction of point defects in any kind of coupling structure necessary for adapting the width between both guides, with it foreseen that there may be any number of defects and their characteristics: radius, dielectric constant, relative position and height.

2. System of coupling between dielectric optical guides and planar photonic crystal guides, according to claim 1, characterised by the fact that the coupling structure for adapting the width between both guides may be any length, width and shape, depending on the characteristics of both the dielectric guide and the photonic crystal guide.

3. System of coupling between dielectric optical guides and planar photonic crystal guides, according to claim 1, characterised by the fact that with any photonic crystal, that is with any kind of grid, either triangular or square, it furthermore allows for any value of grid constant, radius and height of the cylinders and contrast of indices between the material of the columns, the material surrounding the columns and the material above and below the crystal.

4. System of coupling between dielectric optical guides and planar photonic crystal guides, according to claim 1, characterised by the fact that the dielectric guide may have any kind of configuration (width and height of the nucleus and layers surrounding it) and refraction indices, including also optic fibre.

5. System of coupling between dielectric optical guides and planar photonic crystal guides, according to claim 1, characterised by the fact that the photonic crystal guide may be of any width and type, including guides based on coupled cavities (CROW).

6. System of coupling between dielectric optical guides and planar photonic crystal guides, according to the foregoing claims, characterised by the fact that it includes a method for choosing the optimum number of defects as well
- 5 as the characteristics of each one of them, both for introducing the light from a dielectric guide into a photonic crystal guide as for extracting the light from a photonic crystal guide into a dielectric guide.

Figures:

5.6. Transmission

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6. Reflection